

Summary



Fracking called both a savior and a scourge

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It's almost impossible to overestimate the importance of fracking to the natural gas industry and the nation. It's also difficult to understate the controversy surrounding the environmental issues of the rock fracturing technology.

Just a few years ago, the operating assumption of both government and the industry was that the U.S. was running out of recoverable natural gas and would soon be importing large amounts to meet our needs. Shipping terminals to receive liquefied natural gas from abroad needed to be built — and fast.

Now, the industry is talking about a 100-year supply and is building export terminals to ship our liquid natural gas to other countries.

What's changed? In a word, fracking. Though the technology of rock fracturing to access natural gas (and crude oil) from shale formations had been around for decades, it has come a long way in a short time, thanks to public- and private-sector innovation.

At a time when crude oil seems precious and more vulnerable to geopolitical forces than ever, and the push for renewable fuels has yet to yield a variable alternative to fossil fuels, America's bounty of natural gas seems like a slam dunk on the road to energy independence and a rebirth of America's economic muscle.

So, what if....

Wall Street's in

"We can become energy independent," says none other than BlackRock Chairman Lawrence Fink.

"We should be building ports for exports, when we determine that's the right thing to do with our natural gas," Fink said on CNBC's Squawk Box program recently. "We should be transforming our gas stations for natural gas. Every truck in America should be turned into natural gas. We do can many things for jobs. We can do many things to really revitalize this country."

Fink's buy-in is hardly an anomaly on Wall Street. Blackstone Group is providing \$2 billion in financing to Cheniere Energy Partners for its construction of a natural-gas export terminal in Louisiana, the first facility in decades.

Pros and cons

Investment opportunities. Corporate profits. High-skill jobs. Tax revenue. Low, stable energy prices for consumers and industry. The list of attributes and perks is long, including the fact that natural gas is a clean, efficient, and invisible fuel.

really?

Table of Air Emissions from Fuels
(in pounds per billion BTU of energy produced)

Air Pollutant	Combusted Source		
	Natural Gas	Oil	Coal
Carbon dioxide (CO ₂)	117,000	164,000	208,000
Carbon monoxide (CO)	40	33	208
Nitrogen oxides (NO _x)	92	448	457
Sulfur dioxide (SO ₂)	0.6	1,122	2,591
Particulates (PM)	7.0	84	2,744
* Formaldehyde	0.750	0.220	0.221
Mercury (Hg)	0.000	0.007	0.016

Source: Energy Information Administration

It has none of the negatives of crude oil or coal, except for one: Like the two others, natural gas is a fossil fuel and produces carbon dioxide, which, goes the scientific theory, is the primary source of greenhouse gases, or climate change.

The other negative may be even bigger: Fracking, especially hydraulic fracturing, comes with serious environmental questions of its own, specifically how drilling and extraction affect air and water quality. Other issues may surface over time.

Predictably enough, the lines drawn around this issue are starkly antithetical: Proponents say the waste water generated in the process can be disposed of or treated safely; opponents say run-off, industrial accidents and cost-cutting make contamination inevitable.

The debate will be heightened soon enough. The Environmental Protection Agency's study of fracturing's impact on drinking water and ground water resources is due out in late 2012.

Yet, in a classic mix of American entrepreneurial vigor and opportunistic innovation, the clean tech industry — long the foe of Big Carbon — is already at work developing ways to reduce or eliminate the environmental downside.

Boon or bane?

So, is the shale gas boom a natural wonder or a man-made disaster?

It's a question that needs to be addressed alongside other big issues such as energy independence and national competitiveness in an increasingly unfavorable global economy.

Does it merit the NASA-like approach to aerospace or the nurturing of the Internet through minor tax breaks? Should the U.S. take the route of France with nuclear power or Brazil with soybean ethanol? Or should the government simply get out of the way, as they say in the world of business, and expedite the process where and when possible? Swift and easy permitting in a lean and lenient regulatory framework?

The shale-gas, fracking revolution, if it proceeds, has the potential to transform communities across the nation as well as the landscape. Jobs and commerce will come to areas of New York state, Ohio and Pennsylvania — where the energy development industry has been largely absent for a century — and to the coal state of West Virginia. The four-state area is home to one of the largest and most promising shale reserves, known as the Marcellus formation.

Miles of pipelines — both to remove and deliver the fuel — will have to be built in places that have never been home to such infrastructure; liquefied natural gas terminals — long an unwanted neighbor — will need to be built at ports, perhaps on the East Coast, as well as the Gulf of Mexico, which is near several major Texas shale gas formations (Barnett, Haynesville).

Split Decision

Environmental opposition will not be small; towns across New York state are already voting in shale-production bans. Vermont has shut the door.

In the energy patch of Texas and Louisiana, the risk-reward equation is better known, just like the accompanying boom-and-bust cycle of the energy business. Jobs generally trump conservation.

The Obama administration, for all of its general support, is fundamentally torn between riding a boom in the cleanest of fossil fuels and turning its back on the quest for renewable energy sources.

In the best of both worlds, and the age of peak oil, natural gas could give us a century, not decades, to develop the single, viable renewable energy source that has eluded us since President Jimmy Carter had solar panels installed on the roof of the White House three decades ago, when the sting of the oil shocks was still fresh.

So, in two words: "What if?"